

REMARKS

Claims 1, 3, and 5-9 remain pending in the application. Claims 2, 4 and 10-12 are cancelled herein.

Applicant's invention provides a motorcycle frame that may be more precisely and efficiently manufactured. The motorcycle frame has a forked cast metal portion having U shaped left and right inner half portions. The U shaped left and right inner portions are welded to U shaped sheet metal left and right outer portions. Applicant's motorcycle frame provides an advance in a relatively crowded field.

"Thus when differences that may appear technologically minor nonetheless have a practical impact, particularly in a crowded field, the decision-maker must consider the obviousness of the new structure in this light."

Continental Can Co. USA Inc. v. Monsanto Co., 20 U.S.P.Q. 2d. 1746, 1752 (Fed. Cir. 1991).

The cast metal portion of a motorcycle frame may be more easily manufactured to precise engineering tolerances than a forged metal portion. By casting the frame to precise engineering tolerances, the size of the frame may be reduced. This size reduction is realized by sizing the forked section of the frame to more snuggly accommodate an air filter that can be wedged in the forked section. The frame size reduction also reduces aerodynamic drag. The cast metal portion of the frame may also feature air passageways manufactured to precise tolerances allowing very accurate alignment of the air passageways in the frame with air inlets of the air filter.

The cast metal portion of the frame may also be sized more accurately for making the fit of the sheet metal left and right outer portions tighter. This makes the welding process simpler by reducing air gaps. An added benefit of the cast metal portion is that a welding step may be formed in the casting mold allowing the sheet metal left and right outer portions to be mated to

the cast metal portion. The use of a welding step or equivalent structure also increases the structural integrity of the motorcycle frame structure reducing the size of the weld needed and reducing frame weight. Moreover, the welding step allows a welder to use a simple butt weld instead of a fillet weld reducing manufacturing time and cost.

Claims 1-7 and 10-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by *Miyajima* et al (U.S. Pat. No. 6,409,783).

“[T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from the prior art reference’s teaching that every claim [limitation] was disclosed in that single reference.’ *Dayco Prods., Inc. v. Total Containment, Inc.*, F.3d 1358, 1368 (Fed. Cir. 2003).

Miyajima discloses an air filtering system for a motorcycle in which an air filter is housed inside the motorcycle frame and sandwiched between the fuel tank and the engine (*Miyajima*, Figure 4). The air filtering system is characterized by two independent air filter elements that are disposed sideways inside the frame (*Miyajima*, Column 1, Lines 39-44, Figure 4 elements 23 and 24). *Miyajima* asserts that by breaking up the air filter into two separate elements and orienting the elements sideways the air filtering capacity may be increased without the need for moving or reducing the size of the fuel tank (*Miyajima*, Column 1, Lines 59-64).

Claim 1 recites “inner and outer frame halves of the main frames are respectively configured to have generally U-shaped sections, with their openings welded to each other to form the main frame.” *Miyajima*’s disclosure concerns the positioning of the air filter elements inside the frame. *Miyajima*’s main frame portions are coupled longitudinally because *Miyajima* teaches that the main frame portions are formed in a hollow shape through extrusion (*Miyajima*, Column 3, Lines 17-18). Applicant’s newly recited limitation thus is neither disclosed nor suggested by *Miyajima*.

Claim 1 also recites “wherein the inner frame halves of the main frame and the swing arm brackets in their entirety or respective inner portions of the swing arm brackets are made of a unitary cast metal.” The Office Action asserts that the claim language was directed toward a process and thus immaterial to an apparatus claim (Office Action, Section 3, Lines 14, 18, 30-31). Applicant traverses.

The limitation “made of a unitary cast material metal” imparts a structural limitation on the apparatus. This is because a unitary cast metal has different material properties than a forged metal such as stamped sheet metal.

Cast metals are formed by molding molten metals in a mold. As the molten metal cools, the unitary cast metal formed has homogenous properties. That is, the mechanical properties of a cast metal are the same regardless of the direction of an applied stress. Forged metals are formed by applying stress to a solid metal. The stresses change the properties of the metal and the metal is anisotropic. That is, the mechanical properties of a forged metal vary depending on the direction of the applied stress.

Applicant’s recitation of a unitary cast material for the inner frame halves is an important feature. It provides the inner frame halves of the motorcycle with homogeneous mechanical properties. The homogenous properties allow the manufacturer to more easily introduce more complex structural features such as a welding step without concern for introducing unwanted anisotropic properties in the metal possibly compromising structural integrity. Incorporating structural features also enables the manufacturer to more efficiently mate the unitary cast inner frame halves with outer sheet metal halves thereby reducing weight. Thus, the use of a cast metal portion in the motorcycle frame allows a manufacturer to manufacture a more cost efficient, drag efficient and lighter motorcycle.

For the reasons state above, Applicant submits Claim 1 is patentable over *Miyajima*. Claims 3 and 5-9 depend from Claim 1 and are patentable for the same reason as Claim 1.

Claims 8 and 9 were rejected under 35 U.S.C. §103(a) as being unpatentable over *Miyajima* in view of *Yamagiwa* et al (U.S. Pat No. 4,989,665).

The Federal Circuit has held that a person of ordinary skill in the art must not only have had some motivation to combine the prior art teachings, but some motivation to combine the prior art teachings in the particular manner claimed. *See, e.g., In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (“Particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination *in the manner claimed.*” (emphasis added)); *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998) (“In other words, the examiner must show reasons that the skilled artisan, confronted with the same problems as the inventor and with no knowledge of the claimed invention, would select the elements from the cited prior art references for combination *in the manner claimed.*” (emphasis added)).

Yamagiwa discloses a casting mold for a motorcycle (*Yamagiwa*, Abstract). *Yamagiwa* recognizes that a hollow frame of a motorcycle will frequently resonate with vibrations originating from the engine (*Yamagiwa*, Lines 22-28). To dampen these vibrations reinforcing ribs and support pieces are sometimes provided (*Yamagiwa*, Lines 43-47). *Yamagiwa* proposes a casting mold for producing a motorcycle frame having ribs or support pieces (*Yamagiwa*, Lines 22-37).

Yamagiwa fails to disclose or suggest “inner and outer frame halves of the main frames are respectively configured to have generally U-shaped sections, with their openings welded to each other to form the main frame.” *Yamagiwa* also fails to disclose a motorcycle frame having “sheet metal” and “cast metal” portions. Thus, Claims 8-9 are patentable over any combination

of *Miyajima* and *Yamagiwa*. Accordingly applicant respectfully requests that this rejection be withdrawn.

For the reasons stated above, Applicant now believes the application is in condition for allowance and early notification of the same is respectfully requested.

If the Examiner believes a further telephone conference would assist in the prosecution, the undersigned attorney can be contacted at the listed phone number.

Very truly yours,

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